REQUEST FOR PROPOSALS

LTRC 11-2P

DOTD GPS Technology Management Plan

PROBLEM STATEMENT

Global positioning systems (GPS) have become a common widespread technology in transportation applications as well as by the general public. Many sections within the Louisiana Department of Transportation and Development (LADOTD) are collecting GPS data in their daily production activities due to its advantages and convenience. Unlike the implementation of other new technologies, LADOTD has not established standards for GPS technology that address hardware, software, proper use, management, or training. Because there are numerous hardware and software platforms that require the use of different proprietary components, LADOTD sections that use GPS have had no guidance in their procurements. Costs vary widely as do the capabilities and appropriateness of the different combinations of hardware and software for specific applications. As a result, GPS solutions across the Department are not interoperable and each requires their own training and procedures to ensure proper use. It is impossible to provide support or maintain the quality of data collection in this environment. Therefore, LADOTD needs a plan for GPS technology management.

To better implement GPS techonology within the Department, the management plan shall address the following:

- How are "accuracy" and "precision" defined to meet the requirments of various applications (e. g., survey applications, mapping applications, asset management applications, construction, road inventory, etc.).
- What are the methods for setting standards for accuracy and precision for each application? Specifically, how do users access the National Spatial Reference System to connect to the appropriate horizontal and vertical datums for their application?
- What section in LADOTD should manage, distribute, and maintain the hardware and software (e.g., IT, Operations, or some other unit)?
- How should LADOTD address staff training in the proper care and use of GPS technology and the interpretation of GPS data?
- What training courses, curricula, and/or certification need to be established to support LADOTD's use of GPS?

OBJECTIVES

The objective of this short study is to develop a GPS technology management plan based on best practices. The plan should provide standards for GPS use, management, and training for the Department. This objective will be accomplished by a comprehensive assessment of the current situation within the Department with respect to GPS technology use and management. The research is anticipated to encompass, at a minimum, the following tasks:

TASK 1 – Literature Review
This will include a literature search of previous and on-going nationwide research projects and case studies on the management of GPS technology.

TASK 2 – Development of Survey Plans
The research team will develop a feasible plan to survey various agencies within and outside Louisiana to collect information for the best practices and GPS management plans. The list of agencies will be developed in consultation with the project review committee (PRC). The plan should consider the information discussed in the problem statement of this request for proposal (RFP).

An interim report shall be submitted to LTRC at the end of this task to summarize recommendations and action plan. This report shall be submitted within 1 month of project initiation. LADOTD reserves the right to modify the remaining of tasks based upon the results of this phase.

TASK 3 – Conduct In-house Survey
Work with the LADOTD IT GIS Unit and the PRC to survey how LADOTD currently uses GPS technology, which includes hardware, software, training, data management, etc.

TASK 4 – Conduct Statewide Survey
The researcher shall conduct a statewide survey and examine how other state, local, and federal agencies in Louisiana manage GPS Technology. State agencies include, but are not limited to, Agriculture and Forestry, Governors Office of Coastal Protection and Restoration (OCPR), Governors Office of Homeland Security and Emergency Preparedness (GOHSEP), Department of Environmental Quality (DEQ), State Police, and Wildlife and Fisheries. Federal Agencies include US Army Corps of Engineers, USDA-NRCS, and National Geodetic Survey

TASK 5 – Conduct Nationwide Survey of State DOTs
A nationwide survey is also expected to include other DOTs, such as Maryland, Mississippi, Texas, etc. LADOTD will provide survey support as needed.

TASK 6 – Survey Result Analysis and Best Practice
The best practice of managing GPS technology can be identified from survey results and analyses conducted in Tasks 3, 4, 5 and here with proper discussion.

TASK 7 – Development of GPS Management for LADOTD
From the "Best Practices" identified in the above tasks, the research team shall develop a proposed plan for GPS technology management at LADOTD. The plan should consider the needs at both the main offices and local districts and give a risk assessment accordingly. A detailed discussion on the limitation of such applications will be very useful and helpful. Examples of various applications are expected in this regard.

TASK 8- Prepare Final Report

The research team will prepare a final report to document the entire research effort. The final report should include results that LADOTD can feasibly follow to improve GPS technology management to provide and environment that can support LADOTD employees' use of GPS to maximize the benefit of GPS technology. A benefit assessment of such implementation should also be included as one of the deliverables for future marketing purpose. The research team is expected to present research results to LADOTD personnel upon request.

SPECIAL NOTES

A. Task descriptions are intended to provide a framework for conducting the research. LTRC is seeking the insight of proposers on how best to achieve the research objectives. Proposers are expected to describe research plans that can realistically be accomplished within the constraints of available funds and contract time. Proposals must present the candidate's current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach.

B. Hours and cost for each task of the research are required for appraisal with a maximum of 20% of research funding for Tasks 1-2.

C. LTRC projects are intended to produce results that will be applied in practice. It is expected that the implementation of the results of this research into practice will evolve as a concerted effort during this project. The final report must contain an implementation plan to include, as a minimum, the following:
   a. The "product" expected from the research;
   b. A realistic assessment of impediments to successful implementation;
   c. The activities necessary for successful implementation; and
   d. The criteria for judging the progress and consequences of implementation.

D. To assist in the implementation process, the investigators of this research shall present the final results to LADOTD officials in an oral presentation to be held in Baton Rouge, LA, at LADOTD Headquarters after acceptance of the final report.

E. The proposal should include travel to meet with the Project Review Committee for a "kick off" meeting, presentation of interim report, and presentation of the final report at a minimum.

ESTIMATED COST OF RESEARCH

$50,000

ESTIMATED COMPLETION TIME

6 months: The draft final report is due 4 months of the initiation of the study. Last two months of the contract is for LTRC review and approval of final report.

LTRC PRIMARY CONTACT

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AUTHORIZATION TO BEGIN WORK

January 1, 2011 (Estimated)

PROPOSAL FORMAT

All proposals are required to be formatted according to LTRC Manual of Research Procedures available on the web site: www.ltrc.lsu.edu. Chapter 2 of that manual provides guidance on proposal development.

PROPOSAL SELECTION

The Project Review Committee selected for this project will review, evaluate, and rank all proposals received using the criteria established on the attached proposal review form.

DEADLINE FOR RECEIPT OF PROPOSALS

Ten copies of the proposal must be received by LTRC by the close of business November 30, 2010. Proposals should be submitted to:

Mr. Harold Paul
Director
Louisiana Transportation Research Center
4101 Gourrier Ave.
Baton Rouge, LA 70808

To equitably answer any questions regarding this Request for Proposals, the Louisiana Department of Transportation and Development (LADOTD) website, http://notes1/agrestat.nsf/WebAdvertisements?OpenPage will be updated with questions and answers and related documents regarding the project. The LADOTD makes these documents available for informational purposes only to aid in the efficient dissemination of information to interested parties. The LADOTD does not warrant the documents against deficiencies of any kind. The data contained within this web site will be periodically updated. Interested parties are responsible to be aware of any updates. Questions regarding this RFP should be submitted in writing to the LTRC contact person. Questions must be received by close of business seven calendar days prior to deadline date.